

### **AMENDMENTS TO THE DRAWINGS**

The attached sheet of drawings includes changes to Figures 1 and 3 to show that the base of the pot has apertures.

Attachment:     Replacement sheet  
                     Annotated sheet showing changes

### REMARKS

Claims 2, 3 and 7 have been amended to overcome the Examiner's objections to the presence of "preferred" features in addition to the broader recitation. The deleted features have been made the subject of new dependent claims 11, 12 and 13.

A new independent claim, claim 14, has been presented for consideration by the Examiner. This is based on original claims 1, 2, and 6, with the feature that the method is for growing at least ten plants but does not recite that each plant to be pot limited (as in claims 8 and 9). Dependent claim 15 refers to preferred aspects of this new independent claim and corresponds to claim 13. Claim 16 has the features of claim 8, while claim 17 has the features of claim 9.

With regard to the drawings objection, a replacement drawing in which apertures are shown in the base of the pots in Figures 1 and 3 is submitted herewith.

The rejections of claims 1, 2, 4, 6, 7 and 10 under 35 USC § 102 over Deckers, of claims 3 and 5 under 35 USC § 103 over Deckers in view of Blaakmeer, and of claims 8 and 9 under 35 USC § 103 over Deckers in view of Struuk are respectfully traversed.

The following two features of the invention recited in claim 1 are missing from the disclosure of Deckers, and make any anticipation rejection untenable: (1) the first growth substrate has a water uptake capacity which is greater than the water uptake capacity of the second growth substrate, and (2) the first growth substrate has a sinking time which is greater than the sinking time of the second growth substrate.

Water uptake capacity is discussed at page 5 lines 5 to 22. It is measured as described at page 7 line 4 to page 8 line 17. The first substrate has a higher water uptake

capacity than the second substrate. This means that water will move from the second substrate into the first substrate when they are in contact.

The sinking time is discussed in the specification at page 4 line 23 to page 5 line 4, and is a measure of the hydrophilicity of the substrate. It is measured as described at page 8 line 23 to page 9 line 6. A lower sinking time means that a substrate has a greater degree of hydrophilicity. Thus, the first substrate is less hydrophilic than the second substrate in the present invention, as demonstrated by its greater sinking time. The effect of the higher hydrophilicity of the second substrate means that it takes up water rapidly during the flooding stage, and in particular, is able to take up water more rapidly than the first substrate.

The choice of the combination of properties of the two substrates used in the invention leads to the advantages discussed in the specification at, for instance, page 4 line 30 to page 5 line 4 and page 5 line 8 to line 22. The method and environment of claims 1 and 10 respectively allow the provision of a system in which large number of pot plants can be grown and receive uniform amounts of water during the growth process, thus leading to uniform growth. The invention is particularly valuable because it allows the application of drought or nutrient stress methods to pot plants without leading to non-uniformity of the resulting set of plants. As discussed in the specification at page 2 line 9 to page 3 line 32, growing plants under conditions of drought stress or nutrient stress can give advantageous properties of the final plant but it is problematic to apply drought stress or nutrient stress conditions to sets of plants and obtain uniform resulting properties. The invention addresses this problem by providing both a method and a growth environment for doing this.

There is no teaching, suggestion or recognition of water uptake capacity or sinking time in Deckers. Accordingly, the assertions in the Office Action about different capacities and sinking times must, of necessity, emanate from the present disclosure being used as a template. That, of course, is not permitted.

On page 1, Deckers points out that plants have been cultured on peat, pumice or clay substrates in the past and the object of that invention was to provide a new substrate in order to lower costs and obtain an optimum culture of the plants (page 1, lines 7-14). That new substrate is a mineral wool covered by a porous covering layer (page 1, lines 16-19).

There is only one point in Deckers at which there is any description of growth of plants using more than one discrete substrate, namely the discussion of Figure 3 at page 5 lines 4 to 12. There is a mat of mineral wool 11 and a block 18 in which plants are positioned, but there is nothing in the reference which teaches or suggests the composition or properties of the substrate block 18. In particular, there is no disclosure at all of the relative water uptake capacity values and sinking time (hydrophilicity) values of the substrate block 18 and the mineral wool layer 11.

While the Office Action avers that Deckers discloses that the substrate is peat, there is no such teaching in the reference. The only reference to peat is in the introduction on page 1 of Deckers, and this mention is immediately followed by a statement that a mineral wool construct is an advantageous replacement for prior art substrates such as peat. Accordingly, any assertion that block 18 is made of peat is a hindsight reconstruction of the reference, based on speculation, and one which has impermissibly crosses the line at which it has become a revision of the reference's disclosure, *Medtronic, Inc. v. Cardiac*

*Pacemakers, Inc.*, 220 USPQ 97, 103 (Fed. Cir. 1983). Given the fact that the reference is based on the use of mineral wool as a substrate, the most (if not only) logical assumption is that substrate block 18 and mineral wool layer 11 are both made of mineral wool.

There are several other reasons which reinforce the conclusion that the substrate block 18 would also be made of mineral wool. First, the Applicant in Deckers is Rockwool/Grodan BV, a very well known supplier of mineral wool growth substrates. Hence, it would be evident to a skilled person in this field reading this specification that an unspecified substrate in a publication made by this company would be likely made of mineral wool. Second, the terminology "block", like the terminology "plug" also used in connection with description of a similar discussion at page 2, line 36 to page 3 line 2 of Deckers, is standard terminology for mineral wool growth substrates of different sizes, but this terminology is not routinely used for substrates made of other materials. Therefore, this terminology also suggests that the substrate block 18 is in fact made of mineral wool. Furthermore, the material is described as a block and is placed directly on top of the mineral wool layer 11. It is not described as being placed inside any other type of container and indeed is shown in the illustration without any rigid material being used to hold it in a coherent state. Materials such as peat, pumice and clay mentioned at page 1 lines 9 to 10 of Deckers are all granular and could not be presented in this coherent manner without a rigid container.

The speculative nature of the Office Action's assertion is further evident from the fact that no reason is presented why the skilled person would believe that the block was not formed of mineral wool or another of the substrates mentioned on page 1 of Deckers. It is purely a hindsight selection to suggest that it would be formed of peat.

The disclosure of Deckers does not support any speculation that the first and second growth substrates be different in their water uptake capacities and sinking times. This is not merely an arbitrary difference but is critical to the advantages of the invention, as discussed above. Deckers uses mineral wool as the base layer for its growth system and does not suggest that there would be any advantage of using this material in combination with a different growth substrate and/or ensuring that the water uptake capacity and sinking time of two substrates are in the relationship to each other as recited in present claim 1. Even as to density, there is no discussion of why the density values should be the value set forth.

The Office Action cites page 5, lines 18-19 of Deckers as purportedly disclosing drought stress. However, those lines refer to an ebb/flood system but such a system does not imply drought stress as appears to have been assumed. An ebb/flood system can be used under other conditions, making the assertion of inherency untenable. Any assertion of inherency requires certainty, and neither possibilities or even probabilities are sufficient. A bald, conclusory statement, as is present in the Action, is not an allowable substitute. The Office Action has made no attempt to show the required certainty is present.

It is clear from the foregoing that the present invention is novel over the disclosure of Deckers. Also, nothing in Deckers suggests the use of different materials having the different capacities and sinking times recited in the claims, and the invention is therefore, also clearly non-obvious.

Blaakmeer has been cited for its description of rock wool having certain diameters and for being bonded with a hydrophilic binder. It is not asserted to cure any of

the basic deficiencies in Deckers, nor in fact does it do so. As a result, the combination of these two references cannot render any of the pending claims obvious.

Combining the teaching of Deckers and Struyk is also not obvious. Deckers relates to an entirely different arrangement substrate. It describes a growth substrate provided in the form of a roll of mineral wool having porous covering layers. This roll of substrate is one of the advantages of Deckers' system, as it allows the substrate to be handled prior to use in manageable form, rolled up and compressed. If the wool of Deckers were to be used in the Struyk system, then the material would have to be severed into appropriate form, whereby all the benefits of the roll would be lost. Further, Deckers does not disclose combination of relative sinking times and water uptake capacities defined by claim 1, and Struyk has not been cited to disclose such features, and in fact, it does not do so.

Acknowledgment of the IDS filed with the original application papers is respectfully requested.

In view of the above amendment, applicant believes the pending application is in condition for allowance.

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Respectfully submitted,

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